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SPECIFICATION FOR PNEUMATIC COUPLING BETWEEN TRACTORS AND TRAILERS

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SPECIFICATION FOR PNEUMATIC COUPLING BETWEEN TRACTORS AND TRAILERS

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SPECIFICATION FOR PNEUMATIC COUPLING BETWEEN TRACTORS AND TRAILERS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 31 August 1981, after the draft finalized by the Transport Tractors and Trailers Sectional Committee had been approved by the Marine, Cargo Movement and Packaging Division Council.

0.2 This standard has been formulated to ensure interchangeability of the pneumatic braking connections between tractors and trailers.

0.3 This standard is based on ISO 1728-1980 'Pneumatic braking connection between motor vehicle and towed vehicles interchangeability', issued by the International Organization for Standardization.

1. SCOPE

1.1 This standard specifies type, dimensions and other requirements of coupling head and the pipe line of the pneumatic brake connection between tractor and trailer.

1.2 This standard is applicable to vehicle combinations equipped with pneumatic braking systems with two lines that is one control line and one supply line.

2. REQUIREMENTS

2.1 General — The towing vehicle shall be equipped with an automatic device ensuring, without manual operation, the continuity of the pipelines when they are coupled, and their closure on uncoupling; this device shall not affect interchangeability. The coupling head shall make provision for any type of valve to be fitted to the towing vehicle provided that the valve may be opened by the standard coupling head on the towed vehicle and that the ability to be coupled with all coupling heads corresponding to this standard is not compromised.

2.2 Type of Coupling Head — The coupling head shall be of 'Palm type'. It shall be fitted with an inhibiting device to prevent incorrect coupling (*see* Fig. 1 and 2).

2.3 Dimensions of Coupling Head — The dimensions of the coupling head shall be as shown in Fig. 1 and 2.

NOTE — Dimensional details necessary for the coupling have only been covered in this standard. All other dimensions and design details are left to the discretion of the manufacturer.

2.4 Location of Coupling Head

2.4.1 *Location of Fixed Coupling Heads on the Towing Vehicle* — The fixed coupling head of the control line shall be located on the left of the longitudinal plane of symmetry when viewed from the rear, and the head for the supply line shall be on the right of this plane under the same conditions. For location of the coupling heads *see* Fig. 3.

2.4.2 *Location of Fixed Coupling Heads on the Semitrailer* — The coupling head for the control line shall be located on the left of the longitudinal plane of symmetry when viewed from the rear, and the head for the supply line shall be on the right of this plane under the same conditions. For location of the coupling heads *see* Fig. 4.

2.5 Orientation of Coupling Heads — The coupling axis of the fixed coupling heads shall be horizontal; the vertical sealing face shall be located as follows, according to whether it concerns a road train or an articulated road train:

— Truck : Towards the right when the vehicle is viewed from the rear;

— Semitrailer : Towards the left when the vehicle is viewed from the rear.

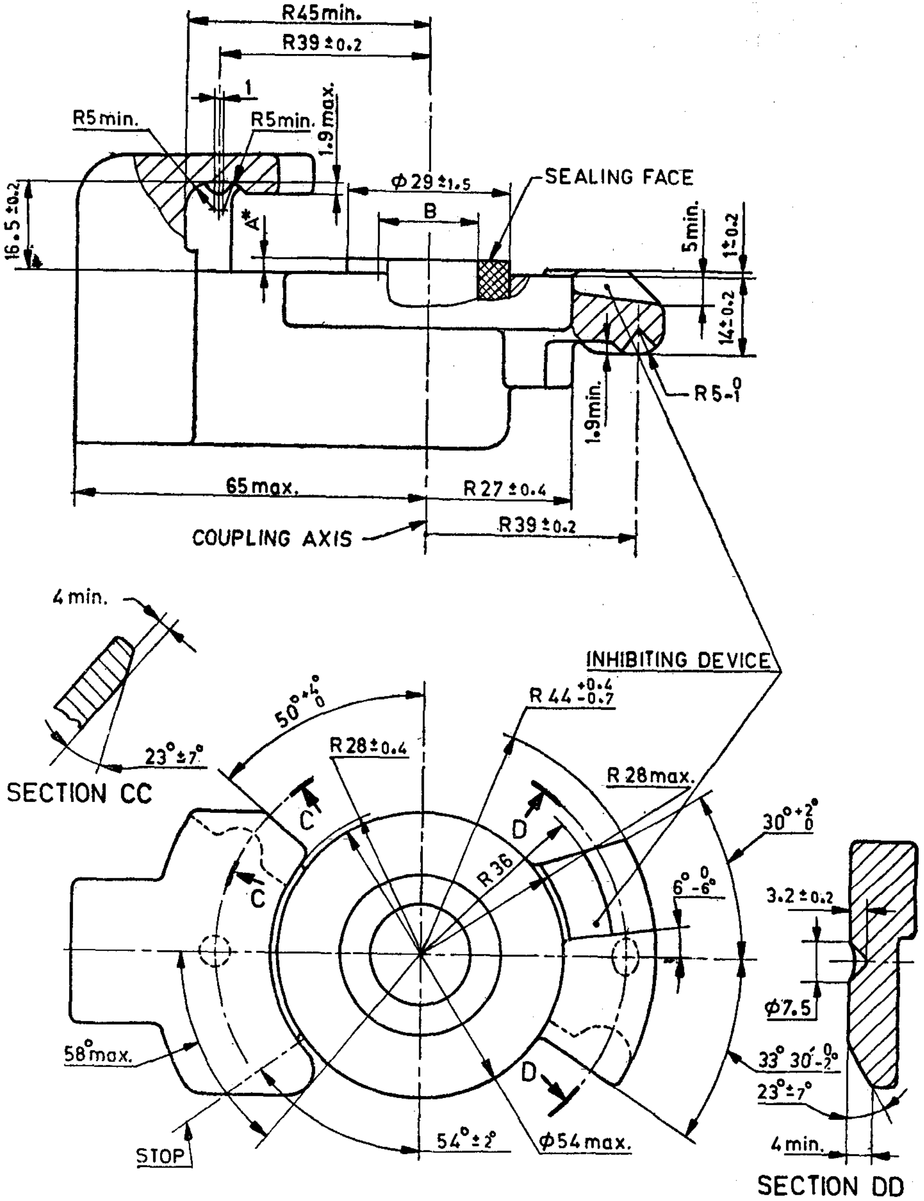
2.6 Location of Flexible Pipe Connection — The flexible pipe connections (with coupling head at the end of the pipe) are integrated components:

— of the trailer (in the case of a road train);

— of the tractor (in the case of an articulated road train).

2.7 Length of Flexible Pipe Connections

2.7.1 *Road Train (see Fig. 3)* — The location and length of pipes depend on the location of the coupling heads and the fact that the maximum angle between the drawbar centre line and the longitudinal axis of the towing vehicle is 75°. For angles less than 60°, there shall be complete freedom of lateral movement without any tension on the pipes or rubbing of the pipes against one another; for angles from 60 to 70°, lateral movement shall be possible without causing deterioration of the pipes.



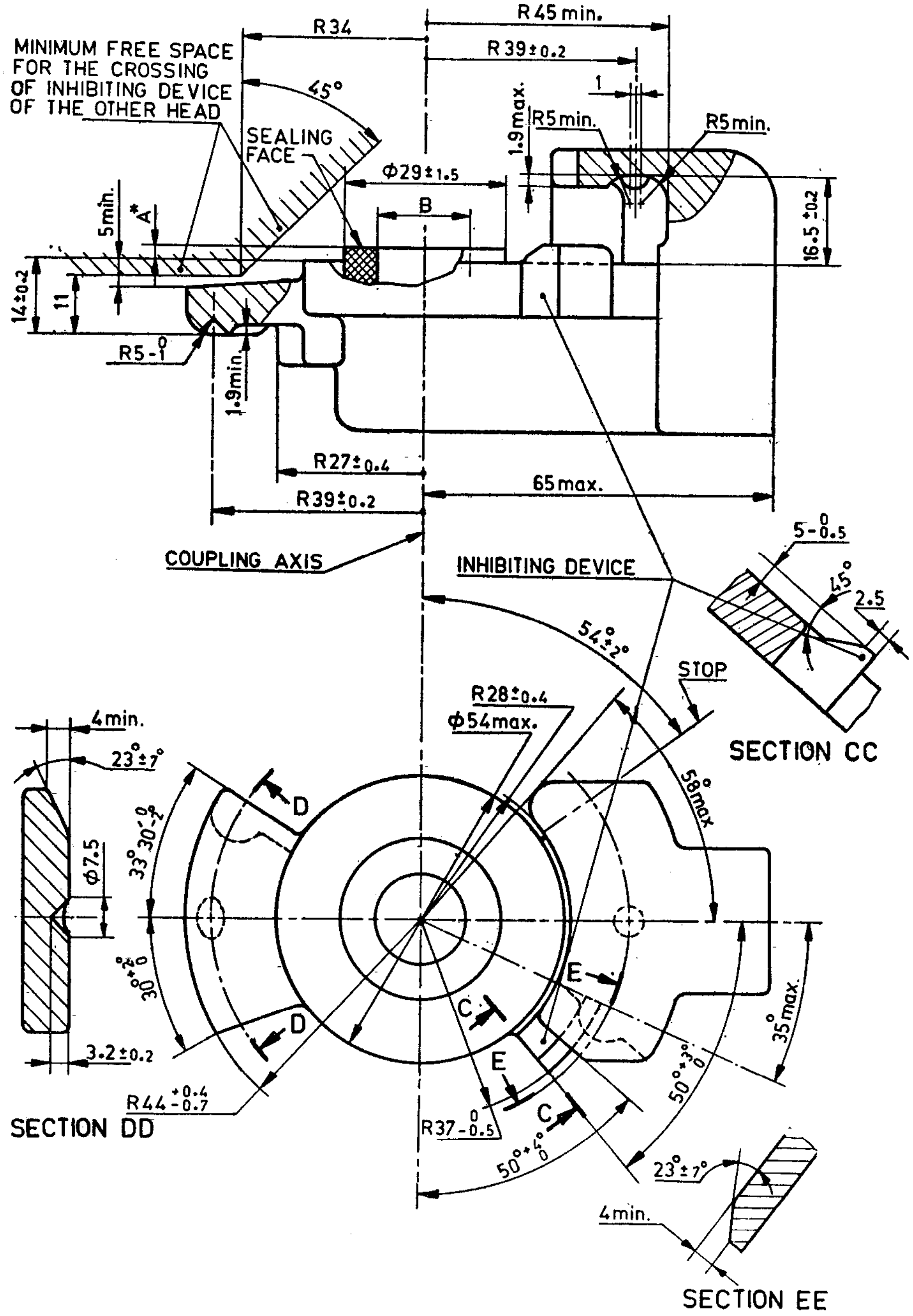
	A	*B*
With resilient sealing ring (for heads 'tractor' and 'trailer')	2·7 ± 0·5	ϕ 19 ± 2
With mobile part providing for the opening of the automatic valve (*see* **2.1**)	4·5 *Max*	ϕ 21 *Max* ϕ 11 *Min*

All dimensions in millimetres.

FIG. 1 COUPLING HEAD FOR SUPPLY LINE

---

*Dimension *A* — The opening of the automatic device must be assured even when two coupling heads with the most adverse tolerances for pushing down the mobile part are connected together. It must be possible to push down the sealing face until the dimension *A* is at zero.



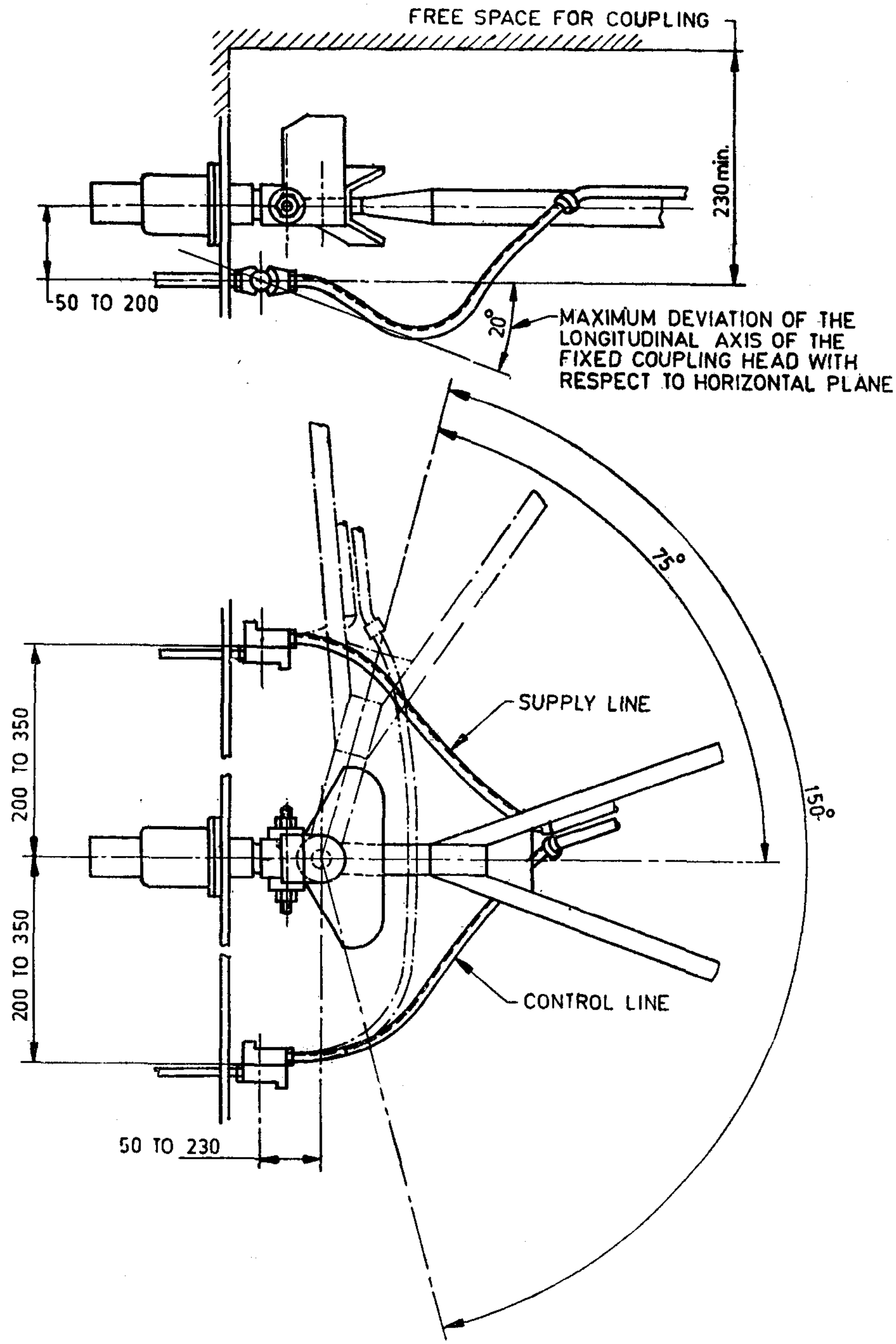
	A	*B*
With resilient sealing ring (for heads 'tractor' and 'trailer')	2·7 ± 0·5	ϕ 19 ± 2
With mobile part providing for the opening of the automatic valve (*see* **2.1**)	4·5 *Max*	ϕ 21 *Max* ϕ 11 *Min*

All dimensions in millimetres.

FIG. 2 COUPLING HEAD FOR CONTROL LINE

---

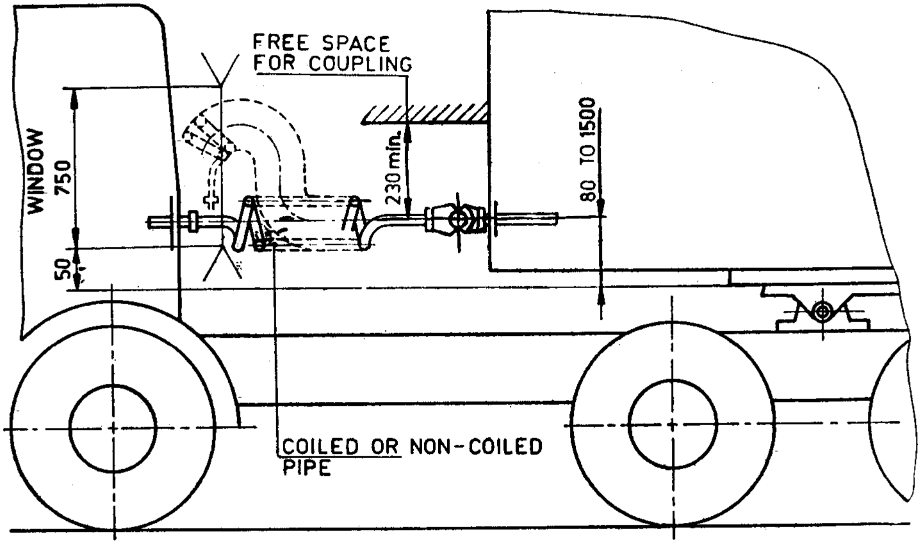
*Dimension *A* — The opening of the automatic device must be assured even when two coupling heads with the most adverse tolerances for pushing down the mobile part are connected together. It must be possible to push down the sealing face until the dimension *A* is at zero.


FREE SPACE FOR COUPLING
230 min.
50 TO 200
20°
MAXIMUM DEVIATION OF THE LONGITUDINAL AXIS OF THE FIXED COUPLING HEAD WITH RESPECT TO HORIZONTAL PLANE
75°
150°
SUPPLY LINE
CONTROL LINE
200 TO 350
200 TO 350
50 TO 230

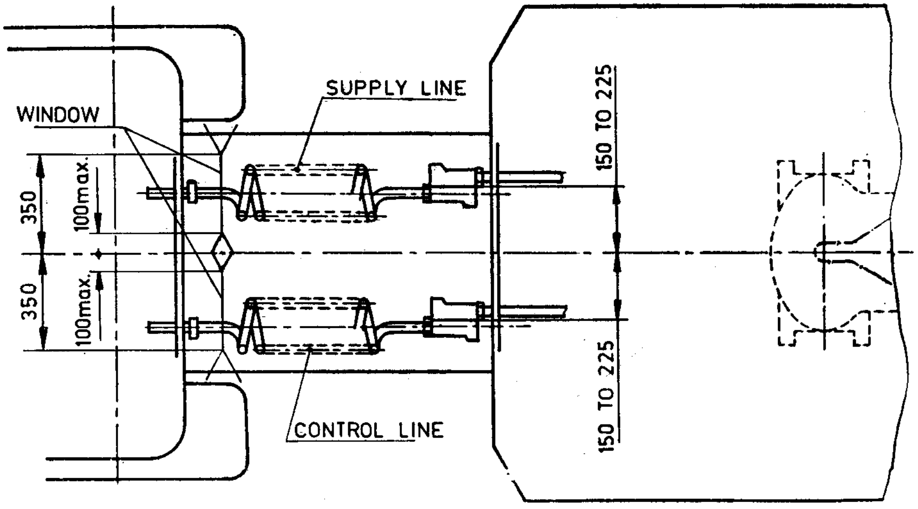
The connecting lines, when uncoupled, shall be capable of being hooked on to the trailer for safety reasons.

All dimensions in millimetres.

FIG. 3 LOCATION OF COUPLING HEADS AND OF FLEXIBLE PIPE CONNECTIONS FOR ROAD TRAINS



THE FLEXIBLE PART OF THE COILED, OR NON-COILED, PIPE (FROM THE END OF THE KINK PROTECTION DEVICE) SHALL PASS THROUGH THE WINDOW. THE BEGINNING OF THE PIPE MAY DEVIATE IN A VERTICAL DIRECTION UPWARDS FROM THE HORIZONTAL DIRECTION.



The connecting lines, when uncoupled, must be capable of being hooked on to the tractor for safety reasons.

All dimensions in millimetres.

FIG. 4 LOCATION OF COUPLING HEADS AND OF FLEXIBLE PIPE CONNECTIONS FOR ARTICULATED ROAD TRAINS

2.7.2 *Articulated Road Train* (*see Fig. 4*) — The location and length of pipes depend on the location of the coupling heads and the fact that the maximum angle of articulation is 90°. For angles less than 75°, there shall be complete freedom of lateral movement, without any tension on the pipes or rubbing of the pipes against one another, for angles from 75 to 90°, lateral movement shall be possible without causing deterioration of the pipes.

2.8 Colour Coding for Connections — The colour shall be related to the coupling head or to a clearly visible point close to the head, for example, pipes, an identification tag, etc.

— For the supply line : RED;

— For the control line : YELLOW.